



US006886095B1

(12) **United States Patent**
Hind et al.

(10) **Patent No.:** **US 6,886,095 B1**
(45) **Date of Patent:** **Apr. 26, 2005**

(54) **METHOD AND APPARATUS FOR EFFICIENTLY INITIALIZING SECURE COMMUNICATIONS AMONG WIRELESS DEVICES**

| | | | | |
|----|-----------|---------|-------|-----------|
| JP | 06-237484 | 8/1994 | ..... | H04O/7/04 |
| JP | 07-193569 | 7/1995 | ..... | H04L/9/06 |
| JP | 08-507619 | 8/1996 | ..... | H04L/9/06 |
| JP | 10-507324 | 7/1998 | ..... | H04L/9/32 |
| JP | 10-341224 | 12/1998 | ..... | H04L/9/32 |
| WO | 0072506 | 11/2000 | ..... | H04L/9/32 |

(75) Inventors: **John Raithel Hind**, Raleigh, NC (US);
Marcia Lambert Peters, Raleigh, NC (US)

OTHER PUBLICATIONS

(73) Assignee: **International Business Machines Corporation**, Armonk, NY (US)

ICPWC'99, IEEE, "System Design Issues for Low-Power, Low-Cost Short Range Wireless Networking", P. Bhagwat et al, IBM Thomas J. Watson Research Center, New York, pp. 264-268.

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

IEEE Personal Communications, Dec. 1998, WiSAP: A Wireless Personal Access Network for Handheld Computing Devices, C. Bisdikian et al, pp. 18-25.

(21) Appl. No.: **09/316,805**

"Bluetooth Feasibility Analysis Summary" by David Moloney, SSL, Dublin, Ireland, Jan. 1999, Document FLY-005.

(22) Filed: **May 21, 1999**

"A View of Certificate Technology in Internet/Intranet Communications" by John R. Hind, <http://c48jrh1.raleigh.ibm.com/web-Overview-of-Certificates.htm>, pp. 1-12.

(51) **Int. Cl.** **H04L 9/00**

Bluetooth Technology: The Convergence of Communications And Computing by Andrew Seybold, <http://www.gsm-data.com/artblue.htm>, pp. 1-4.

(52) **U.S. Cl.** **713/168; 713/169; 713/170; 713/173**

(58) **Field of Search** **713/150, 156, 713/168-170, 171, 173, 176, 189, 175; 380/277, 278, 279, 282, 285**

* cited by examiner

(56) **References Cited**

Primary Examiner—Hosuk Song

U.S. PATENT DOCUMENTS

(74) *Attorney, Agent, or Firm*—Synnvestvedt & Lechner, LLP

| | | | | | |
|-----------|----|-----------|-----------------|-------|---------|
| 5,299,263 | A | 3/1994 | Beller et al. | ..... | 380/30 |
| 5,473,692 | A | 12/1995 | Davis | ..... | 380/25 |
| 5,621,798 | A | 4/1997 | Aucsmith et al. | | |
| 5,949,877 | A | * 9/1999 | Traw et al. | ..... | 713/171 |
| 6,178,409 | B1 | * 1/2001 | Weber et al. | ..... | 705/79 |
| 6,493,825 | B1 | * 12/2002 | Blumenau et al. | ..... | 713/168 |
| 6,542,610 | B1 | * 4/2003 | Traw et al. | ..... | 380/262 |

FOREIGN PATENT DOCUMENTS

| | | | | |
|----|-----------|---------|-------|-----------|
| DE | 19730301 | 7/1997 | ..... | H04L/9/32 |
| JP | 02-301241 | 12/1990 | ..... | H04L/9/06 |
| JP | 04-117826 | 4/1992 | ..... | H04L/9/28 |
| JP | 04-129441 | 4/1992 | ..... | H04L/9/28 |
| JP | 04-191787 | 7/1992 | ..... | G09C/1/00 |

(57) **ABSTRACT**

A method and system for efficiently establishing secure communications between mobile devices in a radio network. The present invention utilizes public key cryptography and unique hardware identifiers to enable authorizations for access to wireless networks, such as picocells. The present invention prevents the mobile user from maintaining a plurality of secrets such as user identifier/password pairs, PINs, or encryption keys, for access to each device to which he might require access.

21 Claims, 9 Drawing Sheets

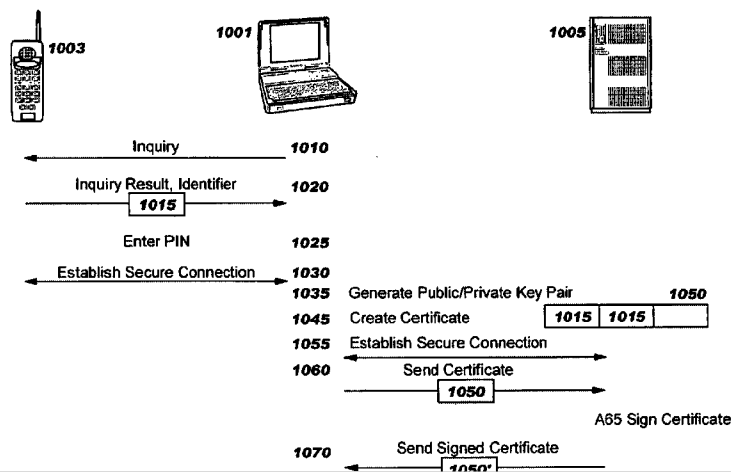


FIG. 1A

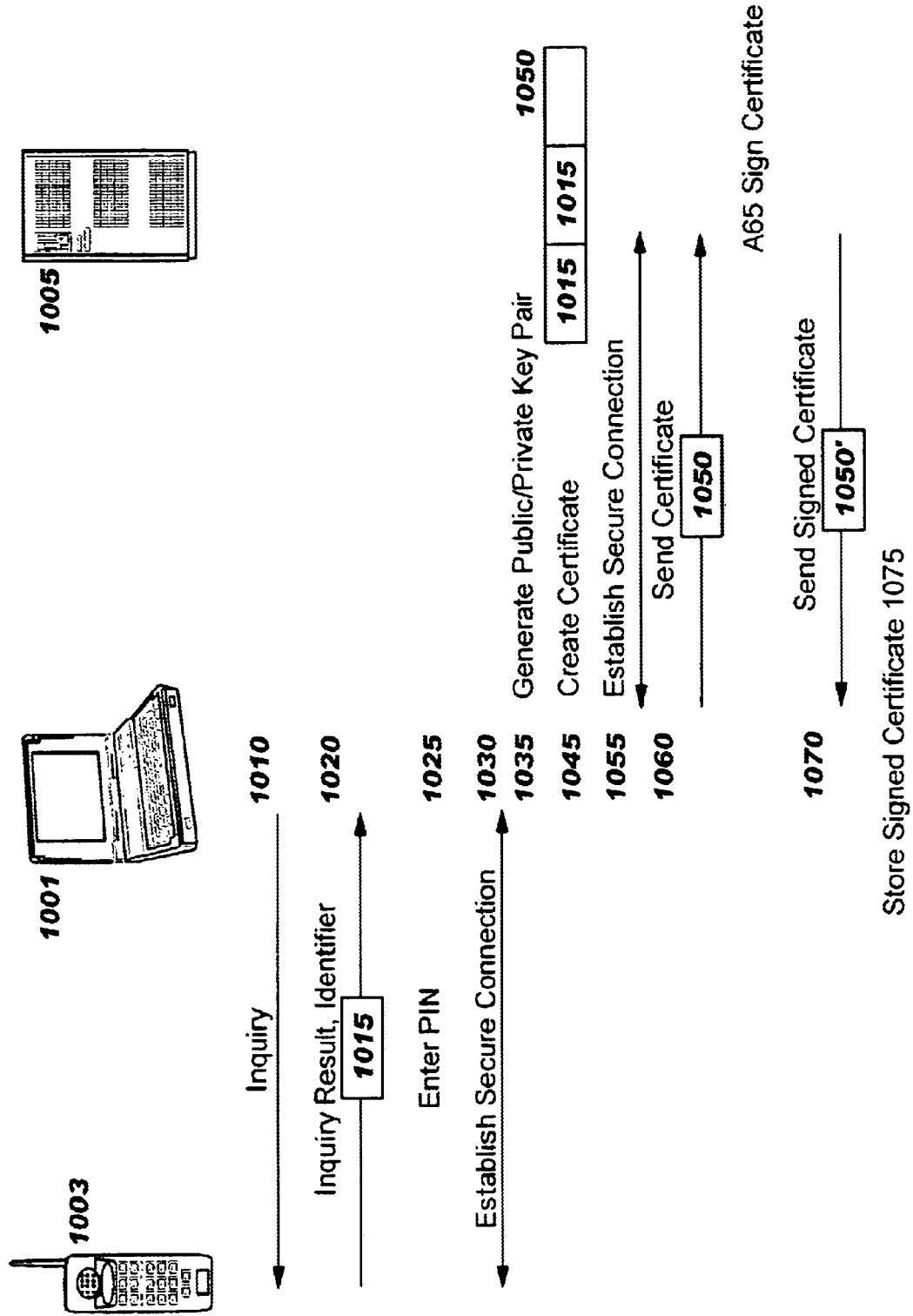


FIG. 1B

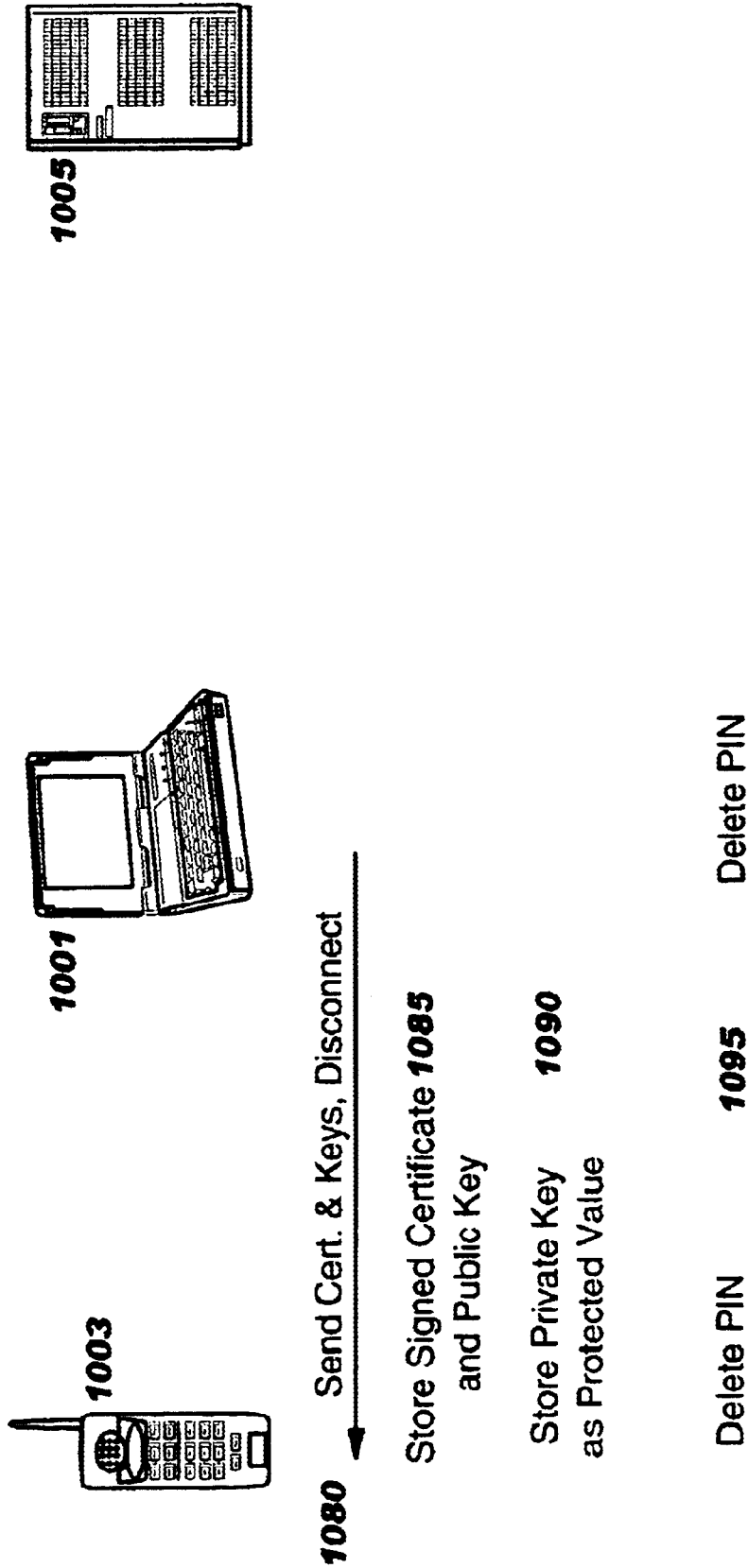
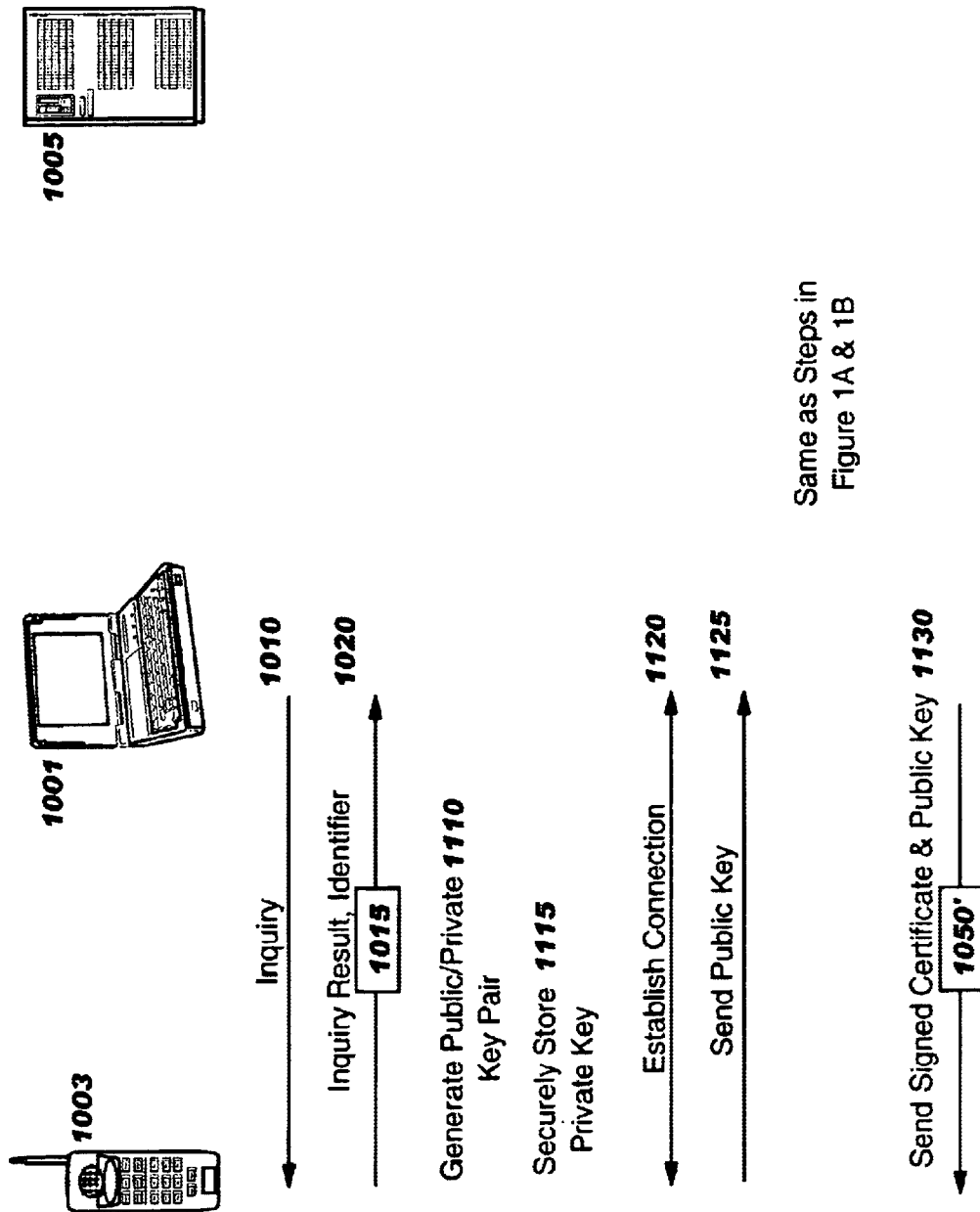
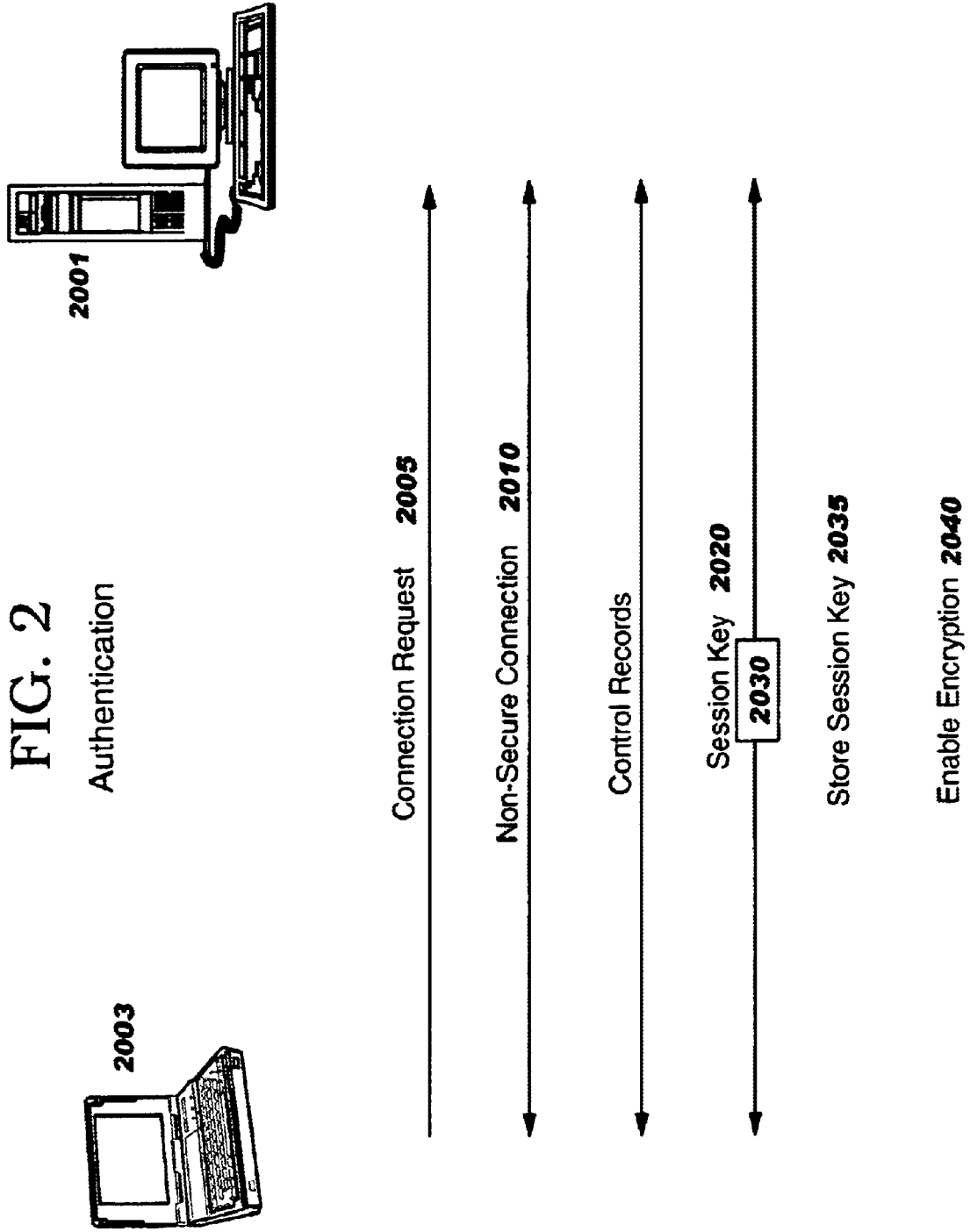


FIG. 1C





Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.